



King County

KING COUNTY DEPARTMENT OF TRANSPORTATION

STRATEGIC PLAN FOR ROAD SERVICES

DECEMBER 2010





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**Department of Transportation
Road Services Division**

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Executive Summary

The road system in unincorporated King County is critically important to people who live and travel in the county, but it is aged and deteriorating. Substantial investments are needed to restore roads and bridges, maintain them in good condition, and meet new transportation demands. However, the Road Services Division's available funding falls far short of the need, despite the division's efforts in recent years to gain efficiencies, streamline its organizational structure, and adjust business practices to current financial realities.

This strategic plan for the King County Road Services Division responds to that dilemma by setting clear priorities to guide the division as it manages the road system. The plan gives top priority to basic goals: comply with legal requirements, meet core safety needs and preserve the existing road network. These are followed by the goals of enhancing mobility and increasing capacity to support urban growth.

The plan covers the years 2011 through 2015. This will be a time of transition for the County's road system, as cities are expected to complete annexations of urban growth areas that Road Services now serves.

The plan also looks ahead to the post-annexation period, recognizing that the serious challenges facing the county road system over the next five years will persist—and in most cases will intensify—following annexation:

- Annexations will leave the County with less revenue and with the rural roadways that are most difficult to support because of their location, age and condition, and susceptibility to flooding and snow and ice events.
- The population will continue to grow in both rural areas and adjacent cities, adding traffic to the rural road system and creating expectations for urban levels of service.
- Aging county roads will fail or be at risk of failure because Road Services does not have enough funds to perform all needed safety, maintenance and preservation work—and deferral of this work will lead to higher repair and replacement costs in the future.
- New environmental and safety regulations and engineering standards will continue adding to the complexity and cost of supporting the road system.
- Climate change could lead to an increase in the number and severity of winter storms and their impact on roads, and climate change policies could have wide-ranging effects on roadway management.

Road Services' ability to address these challenges is significantly constrained by a structural funding problem. The division has lost major sources of funding in recent years and has seen declines in revenue from remaining sources. In the meantime, its costs for labor, materials, equipment and for meeting standards and regulatory requirements have generally increased.

As Road Services developed a plan to respond to this situation, it analyzed the road assets that it will continue to manage after annexations have been completed. The analysis found that while annexations will reduce the County's responsibility for some assets, such as local access roads and traffic signals, Road Services will continue to be responsible for a large percentage of other



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existing assets in the unincorporated-area road system inventory—90 percent of bridges, 73 percent of arterials, and 80 percent of guardrails, for example.

The division also assessed the condition of the assets that will remain in its care, projected what preservation and maintenance work will be needed, and estimated what that work would cost. The assessment found that much of the remaining County system is in deteriorated condition.

Future service level analysis and recommendation

Road Services estimated that it would need \$240 million annually for optimal management of the post-annexation system. This amount includes the costs of completing the backlog of road projects, of meeting new transportation system needs, and of adopting a lifecycle management approach, which the Roads Operational Master Plan Phase I recommended to minimize the lifetime costs of road system assets. The division estimated that under its current funding structure, only \$102 million would be available annually beginning in 2015—\$138 million less than is needed for optimal management and enhancement of the road system. Since that level of additional funding is unlikely to be forthcoming in these difficult economic times, Road Services developed three alternative scenarios for consideration.

Scenario A, “Maximize asset lifecycle,” would fully implement an asset management methodology and address the backlog of preservation and maintenance needs, but would not have sufficient funding to accomplish any road capacity, non-motorized or other road enhancement needs. This scenario would improve the current condition of roads and bridges, allow a cost-effective planned maintenance approach, and improve emergency response capability. The annual revenue needed to accomplish this scenario is estimated to be between \$170 million and \$180 million.

Scenario B, “Moderate the decline of asset condition,” would maintain current asset condition in the short term and make modest investments in road and bridge replacement, but would not optimize the lifecycle of assets. The condition of roads and bridges would remain similar to 2010 levels in the near term and major deterioration would be delayed. However, inevitable deterioration would still occur over time and would ultimately need to be addressed. Pavement condition and drainage systems would experience the most noticeable impacts; pavement condition scores would trend downward and more localized flooding could occur due to deferred maintenance and preservation of drainage infrastructure. The public would likely experience more temporary road closures due to unscheduled repairs. Staff and equipment would remain adequate to maintain the current level of emergency response. This approach would require an estimated \$120 million to \$130 million annually.

Scenario C, “Manage risk in a declining system,” would operate the road system within the \$102 million in annual revenue that would be available assuming the current funding structure. In this scenario, Road Services would not be able to fund sufficient infrastructure maintenance and preservation to sustain the current condition of the system. There would be difficult choices to make since the system would eventually deteriorate to failure conditions. Some bridges and roads would eventually need to be load-limited to prevent damage. Speed reductions on some roadways, more lane closures for emergency repairs, and increased congestion would eventually occur. Some complete closures of

roads and bridges might be necessary. Maintenance would be primarily reactive in nature, and the associated needs and costs would accelerate as infrastructure condition deteriorates. Emergency and storm response capability would be limited due to lack of resources.

In order to continue to provide an acceptable level of service to users of the unincorporated-area road system, and to prevent rapidly escalating repair costs and potential infrastructure failures resulting from deferred maintenance and preservation, this plan recommends that the County pursue service delivery scenario B to moderate the decline of asset conditions. While this scenario is not optimal in terms of infrastructure lifecycle management and does not prevent the long term decline of the system, it is a more realistic interim option to strive for given current economic realities.

Goals and strategies

The goals and strategies in this plan respond to the challenges and the analyses of road system needs, costs, and funding. They also are consistent with policies that were recommended in the 2009 Roads Operational Master Plan Phase I and approved by the County Council, as well as policy recommendations developed during the strategic planning process. Key policy direction set forth in Phase I, reflected in the top three operational goals, are to meet safety and legal mandates, to give top priority to roadway preservation, and to manage county roads to maximize their lifecycles.

The plan contains two sets of goals. The first set is about “what we deliver.” These goals articulate what Road Services aspires to accomplish. However, the division is mindful that current funding is not sufficient to fully attain all the goals. They are prioritized so that available funding will be dedicated to the most important areas. These goals follow, in priority order:



Goal: What we deliver	1	Meet regulatory requirements and standards. Compliance with local, state and federal regulatory mandates will be inherent in all the division’s activities.
	2	Meet core safety needs. Road Services will place high importance on reducing the potential for harm on county roadways through activities such as repairing guardrails, removing snow and ice, and maintaining signs and signals.
	3	Maintain and preserve the existing roadway facilities network. The division will develop a program to manage road system assets in a way that minimizes costs over the life of the asset. The division also will assess and monitor road system assets, develop a plan to reduce the backlog of infrastructure needs, and direct efforts to the components of the road system that are most in need of attention.
	4	Enhance mobility (movement of people and goods) by facilitating more efficient use of the existing road system. This involves making improvements such as signal timing and intelligent transportation systems in conjunction with preservation and maintenance projects or by finding funding for new mobility projects.
	5	Address roadway capacity when necessary to support growth targets in the urban area. The division’s final priority will be to pursue appropriate funding to increase capacity to support urban growth, consistent with the King County Comprehensive Plan.



The second set of goals is about “how we deliver.” Achievement of these goals is less dependent on funding, and they are all given equal importance. The goals are:

Goal: How we deliver	1	Exercise responsible financial stewardship. Strategies include entering into partnerships and service contracts to achieve efficiencies, using asset management practices, and pursuing new funding sources. Road Services will strive to achieve organizational efficiencies by streamlining the organization and aligning staffing levels and core competencies with the work plan.
	2	Provide responsive customer service and public engagement. Keys to achieving this goal include proactive customer communication, collaboration with road users to solve problems, prompt response to emergency situations, and the use of information technology such as intelligent transportation systems to improve customers’ use of the road system.
	3	Enhance the use of risk assessment in decision making. Road Services will use risk management to direct limited financial resources to activities based on the following priorities: <ol style="list-style-type: none"> 1) protecting life safety 2) preventing private property damage 3) preventing asset damage 4) preventing environmental damage 5) preserving mobility.
	4	Promote workforce excellence during a time of significant transition. Key strategies are to manage change and help employees develop adaptation skills, and to engage employees in finding work efficiencies. Road Services will also develop a leadership succession plan.

Reflecting the value King County places on performance and accountability, Road Services will utilize a set of strategic performance measures to track its progress toward the “what we deliver” goals in this plan. Progress toward the goal of meeting regulatory requirements and standards will be measured by a regulatory compliance index; meeting core safety needs will be measured by collision, injury and fatality rates for road system users; maintenance and preservation of the road network will be measured by infrastructure condition ratings; mobility enhancement will be measured by travel time trends and reliability; and addition of roadway capacity to support growth targets will be measured by the volume-to-capacity ratio on urban connector arterials.

Next steps

To implement this plan, several categories of actions will need to be addressed. These include efficiency, staffing and organizational structure, funding, and facility planning. The division will work throughout the coming year to identify the specific and detailed actions required to move in the direction of stabilizing current asset condition and will report on progress and present proposals for new or revised business activities in the annual business plan updates and the 2012/2013 Executive Proposed Budget.